in the computation. No hypothesis is introduced into the process, and therefore no correction of error by trial is requisite.

Of three methods proposed, one combines the advantages of Keill's series and Cassini's approximation together, and is regarded by the author as the most simple in theory, and most expeditious in practice, which has yet been proposed.

Demonstrations of the late Dr. Maskelyne's *Formulæ for finding the Longitude and Latitude of a celestial Object from its Right Ascension and Declination; and for finding its Right Ascension and Declination from its Longitude and Latitude, the obliquity of the Ecliptic being given in both cases. By the Rev.* Abram Robertson, *D.D. F.R.S. Savilian Professor of Astronomy in the University of Oxford, and Radcliffian Observer. Communicated by the Right Hon. Sir* Joseph Banks, *Bart. G.C.B. P.R.S.* Read February 15, 1816. [*Phil. Trans.* 1816, *p.* 138.]

Dr. Robertson conceives that no full demonstration of these formulæ has yet been published; and hence no one has hitherto remarked two oversights with respect to their application to certain particular cases, which had escaped the notice of their author. Their value, however, has been duly appreciated by those most competent to judge of their merit, especially by M. Delambre, who remarks upon their conciseness, as well as precision, in comparison even with the formulæ given by Lalande.

Some Account of the Feet of those Animals whose progressive Motion can be carried on in opposition to Gravity. By Sir Everard Home, *Bart. V.P.R.S.* Read February 22, 1816. [*Phil. Trans.* 1816, *p.* 149.]

The power which flies have of crawling upon a ceiling is well known, but the mode in which this is effected, says the author, has never been explained. It was not till lately he learned that there are animals of a larger size which have the same power, and in which, from their size, the construction of their feet will admit of more accurate examination.

The *Lacerta Gecko* of Java walks up and down the smoothly polished chinam walls in quest of flies, and runs upwards to its retreat in the roofs of the houses, although the weight of a specimen given to the author by Sir Joseph Banks was as much as $5\frac{3}{4}$ ounces.

On the feet of this animal are five toes, armed with a very sharp and curved claw; and there are also on each sixteen transverse slits, with serrated edges, with pouches between them, which are considered by the author as the striking peculiarity in the foot of this lizard. When these are closed, the under surface of the foot bears a considerable resemblance to the upper part of the head of the sucking fish, the surface of which is furnished with two rows of moveable plates attached by one edge, and serrated at the other, and